

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/002838

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.⁷ G01N33/50, A61K31/445, 31/496, 31/551, 31/554, 45/00,
A61P25/28, 43/00, C07D211/32, 243/10, 281/14, 417/12, G01N33/15

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.⁷ G01N33/48-98, G01N33/15

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
JSTPlus (JOIS)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Enomoto et al., 'Dobutsu Model o Mochiita Ko Seishin'byoyaku no Kaihatsu', Brain Science, Vol.25, No.5 (2003), pages 437 to 444	1-5
X	Ebihara et al., 'Togo Shicchosho no Dobutsu Model', Igaku no Ayumi, Vol.208, No.3 (2004 Nen 1 Gatsu), pages 138 to 142	1-5
X	JP 2003-135074 A (Japan Science and Technology Corp.), 13 May, 2003 (13.05.03), (Family: none)	1-5

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:

- A- document defining the general state of the art which is not considered to be of particular relevance
- E- earlier application or patent but published on or after the international filing date
- L- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- O- document referring to an oral disclosure, use, exhibition or other means
- P- document published prior to the international filing date but later than the priority date claimed

- T- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- X- document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- Y- document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- &- document member of the same patent family

Date of the actual completion of the international search
31 May, 2005 (31.05.05)

Date of mailing of the international search report
14 June, 2005 (14.06.05)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Saji, 'Shinkei Kairomo Keisei to Kofunsei Synapse Kasosei ni Kansuru Kodogakuteki Kenkyu-NMDA Juyotai Kaiba Knockdown Dobutsu no Togo Shicchoshoyo no Ninchi Shogai', Shinkei Kairomo Keisei Shogai no Bunshi Kiko ni Kansuru Kenkyu, Heisei 14 Nendo Sokatsu Buntan Kenkyu Hokokusho, pages 13 to 20 (2003)	1-5

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See extra sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims: it is covered by claims Nos.: 1 - 5

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

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Continuation of Box No. III of continuation of first sheet (2)

Main invention: claims 1-5
2nd invention : claim 9
3rd invention : claims 10-12
4th invention : claims 13-15
5th invention : claims 16-20
6th invention : claim 21

The special technical feature of the invention of claims 1-5 is "in vivo screening method for estimating whether or not a test compound has the possibility of ameliorating any memory/learning dysfunction by schizophrenia, which method includes the step of evaluating memory/learning functions with the use of a model with NMDA type receptor dysfunction as an animal model of schizophrenia and with the use of reference memory problems".

With respect to claims 9-21, it is already known that NMDA receptor is associated with schizophrenia (dementia praecox) and that substances capable of acting on the NMDA receptor ameliorate cognitive ability (see WO 2002/022581 A, especially description in the column "Background of the Invention").

Consequently, the special technical feature of the invention of claim 9 is "therapeutic agent for memory/learning dysfunction by schizophrenia, comprising aricept as an active ingredient". The special technical feature of the invention of claims 10-12 is "therapeutic agent for memory/learning dysfunction by schizophrenia, comprising ketiapin as an active ingredient". The special technical feature of the invention of claims 13-15 is "therapeutic agent for memory/learning dysfunction by schizophrenia, comprising clozapin as an active ingredient". The special technical feature of the invention of claims 16-20 is "therapeutic agent for memory/learning dysfunction by schizophrenia, comprising the general formula [I] of claim 16 as an active ingredient". The special technical feature of the invention of claim 21 is "therapeutic agent for memory/learning dysfunction by schizophrenia, comprising the general formula (2) of claim 21 as an active ingredient".

Among these inventions, there is no technical relationship involving one or more of the same or corresponding special technical features. Therefore, it does not appear that these inventions are linked with each other so as to form a single general inventive concept.